

CALIFORNIA ENERGY COMMISSION1516 NINTH STREET
SACRAMENTO, CA 95814-5512

March 18, 2003

Randy Baysinger
Assistant General Manager
Power Generation Administration
Turlock Irrigation District
P.O. Box 949
Turlock, CA 95381-0949

Dear Mr. Basinger:

RE: WALNUT ENERGY CENTER DATA REQUESTS (02-AFC-4)

Pursuant to Title 20, California Code of Regulations, section 1716, the California Energy Commission requests the information specified in the enclosed data requests. The information requested is necessary to: 1) more fully understand the project, 2) assess whether the facility will be constructed and operated in compliance with applicable regulations, 3) assess whether the project will result in significant environmental impacts, 4) assess whether the facilities will be constructed and operated in a safe, efficient and reliable manner, and 5) assess potential mitigation measures.

These data requests are being made in two areas: Air Quality and Visual Resources. We are asking that you supply your responses within 30 days. Accordingly, written responses to the enclosed data requests are due to the Energy Commission staff on or before April 17, 2003, or at such later date as may be mutually agreed upon.

If you are unable to provide the information requested, need additional time, or object to providing the requested information, please send a written notice to the Committee and me within 10 days of receipt of this notice. The notification must contain the reasons for the inability to provide the information or the grounds for any objections (see Title 20, California Code of Regulations, section 1716 (f)).

If you have any questions regarding the enclosed data requests, please call me at (916) 654-4067.

Sincerely,

BOB ELLER
Energy Facility Siting Project Manager

Enclosure

cc: Docket (02-AFC-4)
Proof of Service List (Interested Parties/Agencies)

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Technical Area: Air Quality

Author: William Walters and Lisa Blewitt

BACKGROUND

Construction Emission Calculations

Staff has determined that the construction emission calculations appear to be flawed. The worst case day and annual construction emission calculations for the WEC are essentially identical to those provided for the San Joaquin Valley Energy Center (SJVEC) and the Inland Empire Energy Center (IEEC). These are different projects and have site specific parameters that need to be used to calculate the construction emissions. Additionally, staff has found several questionable assumptions used to calculate the construction emissions. Staff requires additional information to determine how extensively the construction emission calculations will need to be revised.

DATA REQUEST

103. Please identify how it is possible that almost all of the construction emissions assumptions; hourly, daily, monthly and annual, for the WEC, SJVEC, and IEEC projects could be identical.
104. The worst-case daily construction equipment load factors do not seem to be reasonable. The following table presents, for specific equipment of concern, the load factors calculated by staff versus the typical load factors provided by the SCAQMD in their CEQA Air Quality Handbook. The load factors were calculated using the hourly fuel usage data provided in AFC Appendix 8.1D-1 assuming 0.40 lb/diesel fuel per HP/hr.

Considering that the worst-case day assumes no more than 8-hours of operation, and in some cases a maximum of only 2 or 4 hours of operation, the hourly load factors do not seem reasonable and have not been justified. Please provide a reference that justifies the fuel consumption assumptions used, or provide a revised equipment emission calculation using load factors that can be justified.

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Equipment	Assumed Equipment Model	HP	Fuel Use Gals /hr	Applicant's Maximum Hourly Load Factor	SCAQMD Load Factors ^a	Applicant's Worst-Case Hour/day
Crawler Crane- Greater than 300 ton	Manitowoc - 831 Ton Crane	600	7.50	22.22%	43%	2
Crawler Crane- Greater than 200 ton	Link Belt - 250 Ton Crane	450	5.00	19.75%	43%	4
Crane - Mobile 65 ton	Link Belt - 70 Ton Crane	365	4.00	19.48%	43%	4
Cranes -Mobile 45 ton	Grove - 40 Ton Crane	300	4.00	23.70%	43%	4
Cranes - Mobile 35 ton	Grove - 40 Ton Crane	300	4.00	23.70%	43%	4
Excavator- Trencher	Caterpillar Handbook – 225D	150	2.00	23.70%	69.5%	8
Excavator- Earth Scraper	Caterpillar Handbook – 651E	550	9.00	29.09%	66%	8
Excavator-Motor Grader	14H Motor Grader – Cat Website	215	5.00	41.34%	57.5%	8
Excavator – loader	Caterpillar Handbook – 966E	216	2.50	20.57%	54%	8
Truck- Water	CAT 769 – Cat Handbook	510	3.13	10.91%	41% ^b	8
Dump Truck	Mack RS 600	350	3.13	15.90%	38%	8
Service Truck- 1 ton	F-250	235	1.56	11.80%	41% ^b	8
Truck- Fuel/Lube	Mack E-7	350	3.13	15.90%	41% ^b	2
Concrete Pumper Truck	Mack EM-7 300	310	3.13	17.95%	41% ^b	8
Tractor Truck 5th Wheel	International 8100	280	3.13	19.87%	41% ^b	8
Trucks- 3 ton	F-450	325	1.56	8.53%	41% ^b	8

a – South Coast Air Quality Management District CEQA Air Quality Handbook Table A9-8-D.

b – Load factor for Off-Highway Trucks

105. The fugitive dust control efficiency used in the emission calculations (88%) is from a single control efficiency calculation that is specific to unpaved road dust suppression control. Further, this calculation is to be used for compacted unpaved roads. Please revise the control efficiency calculations for the paved road fugitive dust sources to be consistent with EPA or ARB methodologies for each type of fugitive dust emission source.
106. The unpaved road fugitive dust control efficiency calculation assumes that the unpaved roads will be watered every 15 minutes. This frequency seems overly optimistic. Can the applicant guarantee this application frequency and agree by permit condition to be limited to this frequency of watering? If not, please revise the unpaved road dust suppression control efficiency using a more reasonable application frequency.
107. The unpaved road fugitive dust control efficiency calculation uses an annual evaporation assumption of 65 inches. However, the annual evaporation at the project site is properly categorized as 80 to 85 inches (Figure 13.2.2-2 of AP-42 Section 13.2.2). Please revise this calculation to use a site specific evaporation rate.

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108. The uncontrolled soil moisture content used in several of the fugitive dust emission factor equations is 7.9%. This value seems high prior to wet suppression. The EPA Section 13.2.4 provides a moisture content of 3.4% for exposed ground. The SCAQMD CEQA Air Quality Handbook (Table 9-9-G-1) provides a soil moisture content of 2% for dry soils. Staff is concerned that the applicant is double counting the wet suppression dust control through the use of unrealistically high uncontrolled soil moisture contents. Please provide a site specific reference for the soil moisture content assumption, or recalculate the fugitive dust emission factors for all applicable sources (i.e. sources with emission calculations that use soil moisture content) using an uncontrolled moisture content of 3.4%.

BACKGROUND

Construction Modeling Results

Staff reviewed the air quality modeling files created by Sierra Research, Nov. 19, 2002. The project impacts modeling files (TURL_03, TURL_06A/B/C, and TURL_07) were reviewed and the results were compared with the refined modeling results presented in Table 8.1B-9. The maximum impacts modeled (Max $\mu\text{g}/\text{m}^3$) for the fire pump and the combined or "all" case (1-hr, 3-hr, 8-hr, 24-hr, and annual) could not be verified. Staff requires additional information to verify the modeling results.

DATA REQUEST

109. Please provide detailed calculations, based on the modeling files provided, to show how the modeling results presented in Table 8.1B-9 for the fire pump and combined or "all" cases were derived (1-hr, 3-hr, 8-hr, 24-hr, and annual).

BACKGROUND

Construction Modeling Results

In the AFC, Appendix 8.1D, Section 8.1D.5.1, the Applicant states that the worst-case daily and annual onsite construction emission levels used to determine the construction impacts are provided in Tables 8.1D-1 and 8.1D-2, respectively. Staff reviewed the Applicant's construction impacts modeling input file (TURL_09.DAT). The emissions rates (grams/second) used by the Applicant were modeled based on 12 hours/day for construction equipment exhaust and related dust emissions, and 24 hours/day for windblown dust. Using these input parameters, staff calculated the modeled lb/day and tons/year and compared the results with those presented in Tables 8.1D-1 and 8.1D-2. Staff's calculated results were consistently higher than the Applicant's stated emissions levels (Tables 8.1D-1 and 8.1D-2) using the assumption of 12 hr/day and 365 days/year. However when staff assumed 10 hr/day and 250 days/year (5 days/week

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minus two weeks vacation), the resultant emissions were the same as the Applicant's emissions levels as provided in the Tables 8.1D-1 and 8.1D-2. The point of this exercise is that there are significant inconsistencies in the emission calculations versus the modeling inputs that translate to inaccurate impacts assessment.

Additionally, staff anticipates that it will remodel the construction emissions using point sources for the construction equipment exhausts and volume sources for the fugitive dust emissions and recommends that the applicant does the same. This recommendation considers the fact that the applicant's emissions data provides an active construction area of 819,927 square feet, while the modeling files use area sources that have dimensions of over 1,600,000 square feet. Staff is available to discuss appropriate point source and volume source modeling assumptions, if needed.

DATA REQUEST

110. Please verify the basis for the worst-case daily and annual onsite construction emission levels (emissions rates, hours/day, days/year). Update the modeling input and output files and Tables 8.1D-1 and 8.1D-2, as necessary.

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Technical Area: Visual Resources
Author: Eric Knight

BACKGROUND

Data Requests Nos. 77-79 requested the applicant to explain how the project would comply with policies and requirements in the Turlock General Plan and Zoning Ordinance intended to minimize adverse visual impacts on adjacent residential areas. The applicant responded that they would not provide landscaping on the south boundary of the site because “it is not required by the City of Turlock and would be incompatible and out of character with the area.” As stated in the data response, the City of Turlock considers the residences along Ruble Road (currently outside the city limit boundary) south of the project site as “transitional uses” that “will eventually give way to industrial development.” The timeframe within which this transition will occur is not specified.

Staff does not agree that landscaping of the project site would be out of character with the area. Although most of the industrial development in the area is not landscaped or screened (which has contributed to the degradation of visual quality in the area), it is not the case for all of the industrial facilities. At the California Dairies facility located about 1,800 feet east of the project site, tall redwood trees are growing within the road setback area along Tegner Road. The redwoods provide partial screening of the dairy structures from Tegner Road and enhance the entrance to the dairy. What appear to be cypress or cedar trees have recently been planted closely together along the fence of a cell tower located on Ruble Road directly opposite a residence. In addition, many of the residences in the area have been extensively landscaped. A residence on Fransil Lane at West Main Street, located about 2,000 feet northeast of the site, has been landscaped with a dense row of tall Italian cypress trees along the south property line. The trees appear to have been planted to screen views from the property toward the industrial facilities (such as Del Mesa and Foster Farms) located south of West Main Street. A dense row of vegetation along Linwood Avenue south of the project site screens views of a dairy farm operation from the residences along Linwood Avenue.

To reduce the project's contribution to potentially significant cumulative impacts (when combined with the effects of past projects), staff believes that a combination of perimeter landscaping along portions of the west and south property lines (South Washington Road viewing area – KOP 4) and offsite landscaping at the residence at the western end of Ruble Road is needed. The project would be clearly evident from these viewing areas (which would have unobstructed foreground views of the project) and would contribute considerably to the significant cumulative visual impact caused by existing industrial uses in the project area. Landscaping in these areas that would substantially screen the project structures would reduce the project's contribution to the significant cumulative impact to a level that would be less than cumulatively considerable.

To comply with City Design Element Policy 7.4-d and Zoning Ordinance 90-2-109(a)(1), which require enhancing the visual attractiveness of the community and development by

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providing attractive streetscapes and landscape screening, the applicant proposes to install landscaping at the power plant entrance on Washington Road. In Data Request No. 79, staff had asked for a conceptual landscape plan not only depicting landscaping to screen the project but also the landscaping proposed to enhance the visual attractiveness of the streetscape and property as required by the Turlock General Plan and Zoning Ordinance. A plan showing the extent of the proposed landscaping and a description of the type, number, planting size and growth rate of the proposed plant species was not provided as requested.

DATA REQUEST

111. Please provide a conceptual landscape plan (at a reasonable scale) depicting the plant species proposed to enhance the power plant entrance road consistent with the Turlock General Plan and Zoning Ordinance. Please show on the plan landscaping along the west and south property (69-acre parcel) boundaries that would be effective at substantially screening the project structures (not necessarily the HRSG stacks) from view from the residences in the area of KOP 4 along South Washington Road.

Please discuss whether TID would be willing to plant trees in the front yard area of the residential property at the western end of Ruble Road. If TID is willing to do so, after speaking with the owner of this property, please discuss whether the property owner would be interested in TID planting additional trees in the front yard of his property to screen views of the project structures from the residences on his property.

Technical Area: Visual Resources - Plume
Author: William Walters

BACKGROUND

In recent projects, with conventional wet cooling towers, staff has proposed cooling tower Conditions of Certification that require the project owner to build the cooling tower as it was proposed in the AFC and/or data responses. This limits the visible plume potential to what was evaluated by staff. However, on a couple of occasions applicants have sought to change the Condition of Certification to allow safety factors in the cooling tower design parameters. Changing the cooling tower design variables impacts the plume frequency analysis and requires staff to re-analyze the revised cooling tower design well beyond the normal discovery and analysis period. Therefore, staff is requesting an assurance that the cooling tower data provided in Data Response 81 includes suitable design parameter safety factors, or that the applicant provide appropriate design parameter safety factors prior to the initial plume modeling analysis.

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DATA REQUEST

112. Staff may determine that a cooling tower design condition, similar to those proposed for the East Altamont Energy Center (EAEC) or SMUD Cosumnes projects, is warranted in this case. Staff will use an exhaust flow rate per heat rejection rate value as the primary cooling tower design parameter. Please identify if any heat rejection rate or exhaust flow rate safety factors should be applied to the values provided in Data Response 81, and if so please provide the requested safety factors.